UNDERSTANDING INJECTION DRUG USERS

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INTRODUCTION

Why, and for whom, was this report prepared?

This report was written to provide guidance for health care planners who are attempting to establish a needle/syringe exchange program in the community as one approach to preventing the spread of HIV/AIDS. The sharing of needles and syringes for the injection of drugs has always posed a threat for transmission of communicable disease such as Hepatitis B. The arrival of HIV and AIDS on the public health scene has created increased concern about the practice. Public health officials have called for a variety of "HIV Risk Reduction" strategies including the provision of AIDS/STD programs that may offer any or all of the following services: education; counselling; distribution of bleach kits for cleaning syringes; clean needles and syringes in exchange for used ones (needle exchange); condoms and dental dams; referral to social/health care specialists; access to alcohol and drug treatment programs and housing; anonymous HIV testing; and Hepatitis B screening and immunization. Needle exchange activities are typically the primary feature of the programs, with other interventions taking on a secondary role.

In many Canadian communities, health service planners are considering the need for, and nature of, interventions aimed at injection drug users (IDUs). An important prerequisite to action will be to understand the local population of IDUs in terms of their numbers, characteristics, and service utilization patterns. This will be difficult, since injection drug users tend to be an elusive population to study. Planners will need to be imaginative in their approaches, and willing to share ideas and strategies. This report, a joint initiative of the Addiction Research Foundation of Ontario and the Hamilton-Wentworth Department of Public Health Services, is Ontario's most recent contribution to the collective pool of ideas and strategies that is emerging from various communities. It follows four other publications by the Addiction Research Foundation: the *Manual on AIDS and HIV Infection* (Kapur, Buchyns & Poulos, 1989), which provided comprehensive information on AIDS for staff and patients in chemical dependency treatment settings; two "Best Advice" papers, "Prevention Strategies: Injection Drug Users and AIDS" (ARF, 1991) and "Controlling AIDS and HIV: The Pharmacist's Role" (ARF, 1992); and another manual, *The HIV Positive Client: A Guide for Addictions Treatment* (McCrimmon & Tschakovsky, 1993). The focus of the latter is on providing education and treatment for the HIV client. This report, Understanding Injection Drug Users: The First Step in Planning Needle Exchange Programs, written for the health care planner, will present an argument for conducting a local needs assessment, and provide a model for conducting the needs assessment. It will also advise on how to use local information in the initial and ongoing design of needle exchange programs.

Needle/Syringe Exchange: An Overview

Needle and syringe exchange programs vary in format. They include: single, fixed distribution locations; several decentralized locations; injection equipment distribution as a part of birth control and STD clinic activities; and travelling vans that distribute injection equipment in locations where injection drug users (IDUs) abound. These programs may be administered by public health departments, community-based agencies, or a collaboration of both agencies. Exchange policies also vary from handing out several sets of injection equipment to anyone who asks, to a requirement that a used needle and syringe must be deposited before a new one can be obtained. Other exchange programs have policies that lie somewhere between these two extremes.

Diversity is also seen in the geographic distribution of exchange programs. Programs have been established in Australia, Europe and North America, indicating the worldwide concern about AIDS and the recognition of needle sharing as a risk factor. Yet, despite the geographic distribution, very few communities have exchange programs. Concerns about the programs' effect on increased drug use may be the major reason. It is unfortunate that these fears prevail in some communities despite evidence that increased drug use does not follow the establishment of exchange programs (Van Den Hoek et al., 1989; Wolk et al., 1990). In fact, early in the history of Vancouver's exchange program (DEYAS), there were a significant number of referrals to addiction-related services stemming from exchange activities with IDUs (Bardsley et al., 1990). As policy-makers weigh the relative costs to society, the threat of AIDS will almost certainly take precedence, and the number of exchange programs will increase.

The potential benefits from a needle exchange program far exceed the mere exchange of needles and syringes to prevent HIV infection. Ideally, the program could function as a source of health information for IDUs and as an access point to a broader range of services that can provide assistance with other social/health problems. More importantly, a program like this can help an individual to overcome substance dependence.

Traditional health care programs are unlikely to be used by most injection drug users. IDUs tend to mistrust health care providers working in large systems where confidentiality is perceived as a problem, and waiting lists for treatment are two to six months or even longer. Also, because of their immediate needs, traditional health care is not always appropriate. "User-friendly" programs need to be designed that are appropriate to the individual communities, readily accessible, and delivered in a manner that invites the development of trust, by care providers who are willing to attempt to understand this culture.

Needle exchange programs are particularly well-suited for this goal, and should be designed to meet the identified needs of the local population of IDUs. Ideally, this would include a detailed demographic, ethnographic, and clinical profile of the group. Understanding the characteristics and needs of the people for whom the program is intended can provide guidance on the type of program to be established and also the required skills and areas of expertise needed by the staff. For example, knowing the

geographic distribution of IDUs in the community, their housing status, and their patterns of service use may determine whether to establish a centralized fixed program, a decentralized program, or a mobile program. Similarly, by knowing the type of drugs used, the pattern of use, and the related medical and social problems of the population, we gain practical information such as the size of needles and syringes needed, hours of operation required, the appropriate location of the program site(s), as well as something about the expertise and sensitivity required by the staff of the exchange program. This will provide guidance for hiring and for the identification of staff development needs. The profile will also provide information as to the kinds of social/health services and professionals in the community with whom to establish consultation and referral relationships.

If IDUs vary in their characteristics and habits among communities, then it will be important to obtain local information to ensure that program design is not based on a stereotypic view of the population. However, information on IDUs is typically difficult to find. Few social/health services routinely collect information on IDUs that is easily retrievable. Furthermore, IDUs tend to be a hidden population, and many communities may be unable or unwilling to allocate the time and resources required to survey this elusive group. Service planners, when confronted with this difficulty, will be tempted to access data collected in other communities. However, the population of IDUs may not be consistent from one geographic site to another in terms of its ethnographic, demographic, and clinical features. If a community plans an exchange program based on a profile of IDUs in another community, it runs the risk that the local population will be very different. Consequently, the design of the new program may fall short of providing a good match to the needs of local IDUs.

The first objective of this report is to challenge the assumption that the injection drug user population is consistent from one geographic location to another. The second objective is to describe how a local substance abuse database can provide practical guidance in designing a needle exchange program.

METHODOLOGY

Literature Survey

A literature search of "Psychlit" and "Medline" from 1986-1991 was conducted to obtain descriptions of IDUs or needle sharers in any geographic or clinical setting. This electronic literature search was supplemented by published and unpublished monographs from libraries and from correspondence between the author and other health professionals and needle exchange programs. Since needle sharing, rather than injection drug use, captures the exact risk behavior of interest, reports of the characteristics of needle sharers were particularly sought out. All studies encountered were examined for clinical and socio-demographic descriptions of IDUs and needle sharers. A tabular comparison with descriptive variables on one axis and geographic location on the other axis, was prepared.

Local Inter-agency Substance Abuse Database

The other source of data came from the authors' own community – the Regional Municipality of Hamilton-Wentworth, a large industrial metropolitan area. The data arose from the Substance Abuse Monitor, a local inter-agency substance abuse database co-ordinated by the Hamilton Area Office of the Addiction Research Foundation (DeVillaer, 1991). Its purpose is to establish the best possible local information system on substance dependence – one that features prevalence data, as well as key features of service utilization. Substance abuse treatment agencies in the community were approached to participate in the database, and nine of the 12 local addictions agencies that existed at the time agreed to become involved. They were an assessment and referral centre, an outpatient counselling program for youth (25 years and under), a day treatment program, a short-term residential program, three long-term residential programs, and two detoxification centres. Those addictions programs that were not included were a day treatment program for women released from the corrections institutions, a residential program for male parolees, and a residential program for homeless males.

All staff of participating agencies were trained on the data collection procedures, and each person was provided with a reference manual as an ongoing guide. Consultation was also provided upon request. A standard Data Collection Form was completed for each client at the participating agencies. An inter-agency system of client identification numbers allowed data to be collected on individual clients while protecting their anonymity. The only inclusion criteria were that the person had to be seeking assistance for an addictions problem, and had to have kept at least one appointment at an addictions treatment agency within the one-year period of the study. Thus, with the exception of clients presenting to detoxification centres, drop-in clients (i.e., no prearranged appointment) were not included. Clients who made only telephone contacts, or those who presented with problems other than substance abuse, were also excluded. Counselling staff would complete the Data Collection Form for each client who met these criteria.

The form requested clinical and demographic information, including

questions specifically directed at injection drug use. The exact questions on the Data Collection Form were: 1) Has the client, in the past year, used a syringe to inject non-prescription drugs?; and, 2) If so, has the client, in the past year, shared syringes with another person?

All Data Collection Forms were collected from the agencies. They were checked for errors and omissions and returned for completion or revision. Consultation was provided for any difficulties. When these forms were returned, they were checked again, and any remaining problems were corrected over the telephone.

The data from the inter-agency database are used to provide a description of IDUs, and how this information can contribute towards the design of a needle exchange program. The data are also examined for the magnitude of the relationships between injection drug use and various clinical and demographic variables.

RESULTS

Literature Survey

The descriptions of IDUs encountered in the literature survey were obtained from several clinical settings: substance abuse treatment programs, methadone maintenance clinics, needle exchange programs, as well as health care services such as hospitals and STD clinics. One street outreach survey was encountered. These descriptions originated from six countries on three continents. The geographic sites and clinical settings are presented in Table 1.

Table 2 presents a tabular summary of the clinical and demographic features of IDUs from the various sites. Unfortunately, only two sites (Hamilton-Wentworth and Seattle) provided data on needle sharers separately from those who used needles but did not share them. For this reason, Table 2 provides data on injection drug *users*, some of whom also shared needles. Most studies reported the percentage of injection drug users who also shared needles, and these values are presented in the table.

a) Socio-demographic Characteristics

Although males predominated in the descriptions encountered, there was considerable discrepancy in the actual ratio. One study included all males, which was by design rather than in response to client demand. The gender ratios in the other reports appear to be in response to client demand, and ranged from 3:1 to 1:1.

Most IDUs appear to be young to early middle-aged, but there was considerable discrepancy among studies. The mean age ranged from 23.8 to 38.0. The percentage of IDUs under age 30

ranged from 17.0 to 58.2. Another study reported that 63.6% were under 31 years. One study reported that 10.7% were under age 26, while another reported 21.7% being under age 25.

The marital status profile also varied among sites. The percentage who were married ranged from 13.1 to 60. Single people accounted for between 37.8% and 89% of IDUs. The percentage who were separated or divorced varied from 3.7 to 28.9. Finally, widowed people accounted for between 0.6% and 2.1% of all IDUs.

Educational level did not vary as much as other characteristics. Only two reports provided the percentage who did not complete secondary education, the figures being 36.7% and 34.6%. In contrast to the first report, the latter report may include individuals with no secondary education. The percentage of secondary graduates ranged from 24.4 to 35. One report of 69.2% of IDUs having no post-secondary education appears to include some IDUs with no high school diploma either. The percentage with some post-secondary education ranged from 27.3 to 31.1. Post-secondary graduates ranged from 5.1% to 25% of the IDUs. Only one study reported mean education level (11.67 years).

The racial background profile is also quite varied. White IDUs ranged from 9.5% to 64%. Blacks accounted for between 1.2% and 75.7%. Latino/Hispanics ranged from 2.7% to 56.3%. Only one report provided the percentage of IDUs who were Native (34.4).

The unemployment rate also showed considerable variation among sites. The percentage of IDUs who were unemployed at the time of contact ranged from 54.4 to 92.

b) Substance Use and Abuse

The studies reported substance use/abuse in a variety of ways. In response, this section describes *substance use* that includes, for the most part, use that has resulted in some harm to the person, but may also include some experimentation with drugs that has entailed little or no harm. Another way in which substance use was reported differently among studies was that some reported only drugs that are commonly injected, such as heroin and cocaine while others described *all* drug use, including alcohol, cannabis, and tobacco. Among studies that included only injected drugs, the most frequently reported substances were heroin (with other opiate-narcotics also being cited) and cocaine, although speed/amphetamines and tranquillizers were also mentioned. Among studies that reported *all* substance use, alcohol was the major drug reported, with cocaine, tobacco, heroin and other opiate/narcotics, speed, and cannabis also mentioned.

It is difficult to assess geographic variability for duration of substance abuse because of the lack of consistency in the way in which it was reported. Two studies reported mean duration of *substance use* as: 10 years and 11.9 years. Another study reported that 63.8% of the IDUs had used drugs for ten or more years. Two studies reported mean duration of *drug problems*, and in this instance there was considerable difference between the two figures (3.8 and 10.5 years).

The consistency of needle sharing is also difficult to assess because studies used different time frames, and some did not specify the time frame involved. For studies that reported the percentage of injection drug users who shared during the

last *month*, the range was from 17.1 to 40. For a time frame of the last *year*, the two percentages provided were 47.2 and 52.4. Another study reported that 83.4% of IDUs had shared during the past *five years*. For the two studies that looked at *lifetime* sharing, the values were 92% and 100%. Eight additional studies did not specify a time frame. Among these eight ambiguous reports, the range was 10.2% to 92.5%, probably reflecting a variety of time frames.

Local Inter-agency Substance Abuse Database

During the one-year period of the study, 1,638 distinct individuals were identified as fulfilling the inclusion criteria. A total of 1,601 (97.7%) provided information on whether they had been IDUs in the past year. Of these 1,601, 176 (11.0%) responded positively, while 1,425 (89.0%) denied needle use. Of the 176 IDUs, 13 did not provide information on needle sharing. Thus, information on needle sharing was available on 163 of the 176 IDUs. Of these, 77 (43.8%) responded positively, leaving 86 (56.2%) IDUs who had not shared needles.

Some individuals attended more than one treatment program during the study. It is therefore possible to use *cases* (i.e., the number of different agency contacts) as another unit of analysis. Most of the analyses here will be based upon distinct individuals, so that each person is counted only once. The only exception to this is when "type of programs used" is examined. This requires that *cases* be the unit of analysis, since some people attend more than one program and will therefore constitute more than one case. In this study, the 1,601 individuals accounted for 1,742 cases.

a) Socio-demographic Characteristics

Table 3 presents a variety of social and demographic variables for various levels of injection drug use and needle sharing.

Women accounted for 38.6% of all clients who reported injection drug use. Only 23.7% of non-injectors were women. The discrepancy is more pronounced for needle sharing: 53.2% of those who shared needles were female. Of those who did not share needles, 26.7% were female.

IDUs tended to be young, with the average age being 29.0 years (compared to 36.9 for non-injectors). Of the IDUs, 26.1% were under age 25, 55.7% were between age 25 and 34, 14.2% were 35 to 44, and 4.0% were 45 to 54. There were no IDUs older than the latter category. By comparison, non-injectors were distributed with 17.7% under age 25, 30.0% between 25 and 34, 26.2% between 35 and 44, 14.8% between 45 and 54, 8.1% between 55 and 64, and 3.2% over age 65.

In terms of age, there was little discrepancy between non-sharers and sharers. The mean ages were 29.2 and 28.8 for non-sharers and sharers, respectively. This small difference is largely accounted for by the fact that 65.1% of the non-sharers were between age 25 and 34, compared to only 49.4% for sharers. Discrepancies between the other age categories were comparatively small.

The most frequently reported marital status among IDUs was single at 42.9%. Most of the other categories were fairly evenly distributed at 16.0% for common-law, 13.1% for married, and 13.7% for both separated and divorced. Only one person (0.6%) was widowed. None of these categories differed much from those who did not report injection

drug use. The greatest discrepancy was that only 8.5% of non-injectors reported living common-law, approximately half of the 16% figure for IDUs.

Discrepancies in marital status between non-sharers and sharers were even less conspicuous, and do not warrant mention.

About half of the IDUs (48.8%) could not identify a supportive person in their lives who would help them with their substance abuse problem. This figure is only slightly higher than the 40.4% identified for non-injectors. There was also no appreciable difference in access to a supportive person between non-sharers and sharers (45.8% versus 50.7%, respectively).

Of the IDUs, 71.7% were unemployed at the time of entering treatment. This is higher than the 56.6% unemployment rate reported by non-injectors. The difference in unemployment rate between non-sharers (73.3%) and sharers (71.1%) was negligible.

b) Types of Substances Used and Abused

Table 4 presents the percentage of clients using, and reporting problems with, a variety of substance types for each level of needle use or sharing. Use/abuse is presented regardless of the chosen mode of drug administration (i.e., injection versus other means).

The percentage of IDUs reporting use of a substance in the past year is high for several substance types. Cocaine was at the top of the list with 88.6% reporting use in the past year. Alcohol was second at 84.0%, followed by tobacco (64.8%), cannabis (55.7%), tranquillizers (31.3%), narcotics (28.4%), hallucinogens (17.6%), stimulants (16.5%), barbiturates (9.7%), antidepressants (8.5%), and solvents (1.7%). For non-injectors, rankings were very similar with one major difference: cocaine was fourth highest at 17.8%. The proportion of non-injectors using the remaining substances was as follows: alcohol (95.8%), tobacco (63.1%), cannabis (33.5%), tranquillizers (13.8%), narcotics (10.7%), hallucinogens (8.6%), stimulants (4.9%), antidepressants (4.9%), barbiturates (3.5%), and solvents (1.8%).

Substance use in the past year was very similar for clients who shared and did not share needles. Needle sharers were slightly more likely to use cocaine than non-sharers (94.8% versus 83.7%).

The bottom part of Table 4 depicts the percentage of clients reporting various substance types as being associated with problems in their lives.

For IDUs, the most frequently reported problem substance was cocaine at 81.8%. Alcohol was second at 72.2%, followed by cannabis (38.6%), tranquillizers (26.7%), narcotics (23.9%), hallucinogens (13.6%), stimulants (11.9%), tobacco (6.8%), barbiturates (7.4%), antidepressants (5.1%), and solvents (1.1%). As was the case with *substances used in the past year*, the ranks for non-injectors were similar to IDUs with the exception of cocaine, which was ranked third, at 13.1%. The proportion of non-injectors reporting problems with the remaining substances was as follows: alcohol (90.1%), cannabis (22.8%), tobacco (9.9%), tranquillizers (7.2%), narcotics (5.5%), hallucinogens (5.2%), stimulants (2.6%), barbiturates (1.6%), antidepressants (1.5%), and solvents (0.9%).

The percentage of clients reporting problems associated with various substance types was similar for

needle sharers and non-sharers. Needle sharers were slightly more likely to report a problem with cocaine than were IDUs who did not share (88.3% versus 76.7%).

c) Level of Substance Use and Abuse

Table 5 provides some indication of the level of substance use and abuse by clients. The first indicator is duration of substance abuse (in years), which tends to be rather high for IDUs. IDUs are younger than non-injectors by about eight years on average (Table 3). Despite this, IDUs have had a problem for 10.5 years (compared to non-injectors who have a mean duration of 12.2 years). Only 9.3% of IDUs reported having a substance abuse problem for less than two years. A duration of two to eight years was reported by 32.7%, and 37.0% reported a duration of nine to 15 years. Finally, 21.0% reported having had a substance abuse problem for 16 years or more. There are no large discrepancies between IDUs and non-injectors for any of the categories of duration.

Needle sharers and non-sharers generally did not differ in duration of substance abuse, which is reflected by the respective means of 10.9 and 10.2 years. The only noteworthy difference is that non-sharers were more likely than sharers to have a duration of less than two years.

The other indicators of level of substance use and abuse provided in Table 5 are as follows: 1) the number of substance types used in the past year, and 2) the number of different problem substances reported at entry into treatment. On average, IDUs used 4.2 substance types in the past year, compared to 2.7 for non-injectors. The difference between needle sharers and non-sharers is even less remarkable.

For the number of different problem substances, IDUs reported a mean of 3.0, while non-injectors reported a mean of 1.6. The difference between needle sharers and non-sharers is also unremarkable.

d) Types of Programs Used and Extent of Program Use

Table 6 presents data on the types of substance abuse treatment programs used and the number of different programs used during the year. Since some clients attended more than one program, the unit of analysis here is *cases* (i.e., the number of different agencies contacted), rather than *individuals* as has been the case in all previous analysis in this study.

IDUs were most likely to use detoxification programs (36.7%). There was little variation in their use of other programs. Use ranged from 16.7% at long-term residential, 13.8% at assessment/referral, 12.9% at outpatient, 11.0% at short-term residential, to 9.0% at day treatment. This did not differ much from non-injectors. The largest discrepancies were that non-injectors were slightly more likely to use the short-term residential program (19.1% versus 11.0%), and slightly less likely to use long-term residential programs (10.1% versus 16.7%).

There was little discrepancy between needle sharers and non-sharers in terms of type of program. The major difference was that needle sharers were more likely to use long-term residential programs (22.6% versus 11.8%, respectively).

The mean number of programs attended by IDUs over one year was 1.5. This differed very little from the mean for non-injectors which was 1.2. However, 33.8% of IDUs used more than one program, compared to non-injectors,

at 16.7%. A similar observation can be made for differences between needle sharers and non-sharers. While the means did not differ (1.6 and 1.4, respectively), there was a discrepancy in the percentage that used more than one program. Of the needle sharers, 43.1% used more than one program, compared to 24.5% of the non-sharers.

e) Magnitude of Relationships Between Injection Drug Use/Needle Sharing and Various Clinical and Demographic Variables

Injection Drug Use

Table 7 presents indices of the magnitude of relationships between injection drug use and the clinical and demographic variables examined in this paper. *Odds-ratios* were calculated for the two-by-two categorical data. *Cramer's V* was calculated for other categorical data. Comparisons involving a continuous variable were assessed using a one-way ANOVA, with *eta* as the index of magnitude of relationship.

Female clients are twice as likely as male clients to inject drugs. There are no differences for age and for access to a supportive person, although unemployed clients were almost twice as likely to inject drugs.

Use of particular drugs in the past year is also associated with injection drug use. Cocaine users, as compared to those who did not use cocaine, were 36 times more likely to inject drugs. Stimulant users were almost four times as likely to inject drugs, while users of tranquillizers, narcotics, or barbiturates were three times more likely to inject drugs. Users of cannabis or hallucinogens were over two times as likely to inject drugs. Conversely, alcohol users were four times less likely to inject drugs.

Various problem substances were also associated with injection drug use. Clients with cocaine problems were 30 times more likely to inject drugs. Clients reporting problems with tranquillizers, narcotics, stimulants, or barbiturates were five times as likely to inject drugs. Those reporting problems with hallucinogens or antidepressants were about three times as likely to inject drugs. Clients reporting problems with cannabis were twice as likely to inject drugs.

Relationships were very weak for duration of substance problem, for the number of substances used in the past year, and for the number of problem substances.

Neither the type of program used nor the number of different programs used were associated with injection drug use.

Needle Sharing

Generally, injection drug users were not differentiated by sharing or not sharing their needles for the variables examined in this study. Such associations were few in number. Female clients were three times as likely as were males to share needles. Cocaine users were almost four times as likely to share needles, while those reporting a problem with cocaine were over two times as likely to share.

f) Residence Status and Geographic Dispersion

Table 8 shows the residence status for IDUs. The percentage of IDUs with a residence within the Regional Municipality of Hamilton-Wentworth was 44.9, 15.3% resided outside the regional boundary, 25.0% reported no fixed address, and residence status was unknown for 14.8%.

Figure 1 shows the geographic distribution of those 79 IDUs who reported residing within the regional

boundary. They are dispersed throughout most of the heavily populated areas of the region, with some concentration in the north-central part near downtown Hamilton. However, they extend into west Hamilton, the extremes of the east end, as well as "the mountain" to the south.

DISCUSSION

Variability in the Characteristics of Injection Drug Users

Injection drug users, in terms of most of their socio-demographic features, vary greatly among geographic locations. Considerable variation was evident for gender ratio, age, marital status, racial background, and employment status. Educational level showed only modest consistency from site to site.

Although the clinical features of the group showed somewhat less variation, this observation may be due to the inconsistent manner in which these variables were reported. The types of substances used generally included cocaine and opiate-narcotics (mostly heroin). Only a few studies reported the use of non-injected substances, but those that did, reported high prevalence of alcohol use. Substances used/abused may be the only variable that is consistent across sites. Duration of substance *abuse* was not consistent, while duration of *use* showed some consistency. However, these observations are each based on only two studies. The percentage of users who shared syringes also showed some consistency. However, no more than two studies used the same time frame, making this observation a guarded one.

In summary, with the exception of the types of substances used by IDUs, there is little evidence to suggest that the characteristics of IDUs are consistent across many geographic sites. The evidence for consistency of duration of substance use and of the prevalence of syringe sharing is weak at best. Communities would be best advised to collect information on the local population of IDUs when planning an exchange program.

The data presented in this report from the local substance abuse database are intended to illustrate the kind of local data that can be collected, and how it can be applied to the design of a needle exchange program. Because of the variability in the population of IDUs from one geographic location to another, readers should be cautious about using these data to design a needle exchange program in a different community.

It is important to note that some variability that was observed across sites should be attributed to clinical setting rather than geographic site. Ideally, one might wish to partition-out this variance to account for it. Unfortunately, some of the studies reported data from more than one type of clinical setting. Thus, it is impossible to conduct such an analysis, and leaves the issue unresolved, although it should be noted as a limitation to the data presented here. There are other limitations to be noted. The characteristics of service users can be filtered by the admission policies and practices of the services, and by the range of environmental variables that make access to service easy or difficult for particular groups of people. This would clearly apply to the individuals encountered in the clinical settings found in the literature. A final comment on the observed variability is that much of it may be due to the cultural factors associated with the various geographic locations reported. It would be interesting to see if more homogeneity would be observed if there was a larger number of Canadian sites available for comparison. The few comparisons that can be made for the Canadian studies reported in this paper provide little evidence of consistency.

USING A LOCAL DATABASE TO DESIGN A NEEDLE EXCHANGE PROGRAM

A profile of IDUs from a local substance abuse database can be an important source of guidance for the establishment of a needle exchange program in that community, particularly if the program endeavours to do more than simply exchange needles and/or syringes. The information can have practical application towards a variety of program features including staff hiring, staff development, networking relationships with other social/health care services, geographic location of the program, and the number and types of program sites to be established.

The program could function as a source of health information and an access point to a broader range of services. The staff of the exchange program would, ideally, be able to facilitate the realization of these more ambitious goals. For example, the anticipated gender ratio of exchange users should affect the gender ratio of the staff to be hired. There are some important gender differences among substance abusers in treatment. For example, women are much more likely than men to report having been physically or sexually abused (DeVillaer & Barbieri, 1992), and it would be important to have some female counsellors who would be sensitive and receptive to discussing these issues. Regardless of how sensitive a male counsellor might be, a woman using the exchange program is unlikely to feel comfortable raising the issue with a man. It would also be desirable to have staff who, like most exchange users, are young, as this may also facilitate verbal inter-

action with an elusive group. However, it might not be wise to compromise "street savvy" to accomplish this. Staff should also be sensitive to the social problems that commonly affect young people. In particular, staff should be capable of responding, through advice or referral, to the social isolation reported by many IDUs. Almost half of them were unable to identify a supportive person in their lives. This may be related to the fact that almost half are single, and well over a quarter have experienced considerable marital disruption. High unemployment was also evident among this group. Staff could refer exchange users to programs offering basic job-readiness training and assistance finding employment.

The drug using habits of IDUs may also have implications for staff responsibilities. Multiple substance use and abuse was quite common. On average, IDUs had used four substances in the past year (most typically, cocaine, alcohol, tobacco, and cannabis) and reported problems with three substances (most typically, cocaine, alcohol, and cannabis). Other common problem substances reported were tranquillizers and narcotics. Long-term heavy use of these various substances contributes not only to the types of social problems discussed in this report, but is also typically associated with a range of physical/behavioral complications including sleep and eating disorders, neurological dysfunction, cardiovascular problems, respiratory illness, sexual dysfunction, menstrual irregularity, gastrointestinal problems, and constipation (Addiction Research Foundation, 1987). Identification of symptoms related to these health problems could be an important staff function, as would subsequent educational or remedial interventions. Ideally, staff may be able to provide some of the required interventions, or at the very least, make appropriate referrals.

It is interesting that tobacco use is quite high with this group (65%), yet relatively low in being reported as a problem substance (7%). This suggests that the group could benefit from some skilfully rendered education on the dependence-producing potential and eventual health hazards of smoking, as well as the more immediate benefits of quitting smoking. There is a need for continued encouragement and support in attempts at cessation of smoking. While the course may be less dramatic than is the case with AIDS, premature death from smoking-related disease is far more prevalent.

Links with the substance abuse treatment system will be very important, particularly some sectors of it. The multi-problem profile presented by individuals in this group will require careful assessment to negotiate a comprehensive treatment plan. Since most IDUs have a long history of substance abuse, intensive treatment (day treatment or residential treatment) will often be required. Given the low social stability of this group as evidenced by high unemployment, marital disruption, and lack of a supportive person, many may need residential programs. During the one-year period of the Hamilton-Wentworth study, the most frequently used type of program was detoxification. Staff at the exchange program should also establish close working relationships with the staff of these local substance abuse treatment programs, since they also have an important role to play, and exchange program staff could be very helpful in

preparing them. There is clearly great potential for an exchange of expertise between the staff of the respective programs. The fact that only a third of the IDUs entered more than one substance abuse program suggests that, in terms of education about needle use and HIV, the most must be made of a single contact at a substance abuse program. All substance abuse programs must provide this information. It would not be wise to assume that the issue will be dealt with at another substance abuse program, because chances are that the person will not go to another substance abuse program.

While a given injection drug user is not likely to visit more than one substance abuse treatment program, IDUs, who attend these programs, visit a wide range of them. All six program types reported contact with IDUs. This might support an argument for a role for substance abuse treatment agencies in the provision of a needle exchange service.

The geographic dispersion and residential status of the IDUs also have some implications for the design of the exchange program. The concentration in the north-central part of the region, with fair dispersion to the west, east, and southward to "the mountain," supports the idea of multiple fixed sites at these locations and/or a mobile unit. If only one main location for the exchange program is to be established, a location in the north-central part of the region should be considered. The finding that a quarter of IDUs reported no fixed address supports a mobile capacity to the exchange program. The fact that about one in six IDUs at Hamilton-Wentworth treatment agencies have a residence outside of the region may place greater demands on the exchange program than expected. This will certainly be the case if exchange programs are not being established in nearby municipalities because of local opposition.

One limitation of the local substance abuse database used in Hamilton-Wentworth is that it covers only that proportion of IDUs who access a local substance abuse treatment program. DeVillaer (1991, p.7) has estimated that proportion to be 7%. The more elusive IDUs who are not likely to use social/health services such as substance abuse programs are not represented, and they may be quite different. However, it is possible that IDUs who use substance abuse treatment programs may also be more likely to use other social/health services such as exchange programs. Users of substance abuse treatment programs may, therefore, be more representative of the IDUs who will use the exchange program in its early days of operation. If this supposition is correct, then current users of substance abuse programs may be a suitable group on which to base the initial design of an exchange program. In time, the community outreach efforts of the exchange program may earn the trust of the more elusive segment of IDUs. We might then expect a shift in the type of IDUs who visit the program, which could require changes in the program's design and operation. Or, it may be the case that those IDUs who do not use social/health services are not profoundly different in any way from those who do. If so, we would not observe any shift in the overall profile of those who use the exchange program.

At the very least, the above discussion poses an interesting question. To complement the database on service users, one could conduct a street survey

of IDUs who do not use social/health services. The two profiles could then be compared. The continued monitoring of people using the exchange program would reveal any change in profile. It would then be possible to see if any change reflects a shift in profile from one corresponding to service users (the inter-agency database) to one corresponding more to the profile of non-users of services (the street survey).

The Hamilton-Wentworth substance abuse database permitted not only the development of a profile of IDUs, but also comparisons of IDUs to drug users who do not inject, and of needle sharers to IDUs who do not share. These comparisons may have further implications for the development of a needle exchange program as well as other public health interventions aimed at HIV and AIDS. Most striking was the prominence of injection drug use among female street drug users. This can be a difficult population to reach with traditional health programs. The exchange program is particularly well suited to this group because it can connect with the population by going to the street and provide a broad range of services in that setting.

There were few important differences between needle sharers and non-sharers. That is, even though needle sharing, and not injection drug use, is the exact risk behavior involved in the transmission of HIV, there appear to be few potentially mediating factors that distinguish between injection drug use alone and needle sharing (at least in terms of the variables examined in this study). This suggests that service planners can feel secure in planning exchange programs based on characteristics of IDUs, should information on needle sharers be unavailable.

However, since needle sharing is the exact risk behavior of interest, the prevalence of sharing and a profile of sharers can have implications for public health interventions other than needle exchange programs. For example, DeVillaer (1991) showed that 4.8% of people in treatment for drug problems shared needles (p. 29) and also estimated that only 7% of people with drug problems in the community seek treatment in a one-year period (p. 7). If this 7% also applies to needle sharers, we can then estimate the number of needle sharers in the community. Such an estimate can help with garnering support for the funding of an exchange program, for predicting demand, and for evaluating the long-term impact of community interventions aimed at reducing the prevalence of injection drug use and sharing.

Some features of the profile of needle sharers may also have implications for other public health interventions related to Hepatitis B, HIV and AIDS. For example, women of child-bearing age are prominent among needle sharers, which would support the initiation of education campaigns targeted to young women. Needle sharers also tend to have had a long history of drug problems (11 years, on average), and this might present an increased likelihood of already being infected with HIV if they have been sharing needles for much of that time. This would support offering anonymous testing programs for HIV and Hepatitis B in needle exchange programs as well as in a variety of sites across the community.

ALTERNATE SOURCES OF DATA AND COMMUNITY DEVELOPMENT CONSIDERATIONS

Despite the many applications of the information provided by a local substance abuse database, it is important to remember that it is only one source of information, with attendant limitations and biases. Wherever possible, communities should attempt to use multiple local sources of information. This strategy will contribute to the fit of the new program with the needs of those who will use it.

As discussed earlier, available clinical data may be representative of only 7% of the IDU population. Therefore, information needs to be gathered from other sources to access the more hidden members of the population. Programs designed to meet the needs of the IDU population need to have an ongoing data collection component incorporated into them to facilitate continuing redesign of the program. Collection of ethnographic data is particularly useful because the information collected describes the IDU culture relating to drug use and more importantly the needle sharing ritual.

Most populations are extremely diverse and, as such, so are the cultural norms and values. Informal focus groups with key informants can be a beginning point for exploring these themes. Key informants can be accessed in a number of ways such as through the local police and by making contact with escort agencies. It is important to remember the target population for these programs: IDUs, their sexual and needle sharing partners, and prostitutes who are often enmeshed in this culture. Of course, there is more to establishing an exchange program than collecting and interpreting data. There is also a great deal of community development work that needs to be done. A detailed discussion of this work is beyond the scope of this report, but some of the salient issues related to the involvement of key stakeholders deserve some attention here. An advisory committee of stakeholders needs to be established that includes representatives from the consumers and the health care community such as public health, community-based AIDS agencies, pharmacies, police, addiction treatment agencies, neighborhood associations and researchers involved in the project. This group can provide input regarding the design of the program as well as ensuring that ongoing evaluation and input from the consumers affects its direction.

Because of the potential controversy associated with the establishment of exchange programs, care must be taken to ensure widespread community support. It is important to include community consultation at all phases of development. The service should be made available to all potential clientele including users of illegal drugs and diabetics. The advisory committee should also establish linkages with local politicians and be attuned to the political climate related to provision of an exchange program.

The primary reason for the provision of exchange programs is to prevent the spread/transmission of HIV and Hepatitis B. However, it is also important to incorporate health promotion activities, including education, advocacy, mediation and counselling into these programs. Results of a study conducted by Tandemar Research, 1992, shows that "knowledge about AIDS does

not affect condom usage" and that "people who are more knowledgeable about AIDS issues are **not** more likely to engage in safer sex" (p. 4). The results indicate that "the most effective way of achieving widespread behavioral change is likely to be accomplished through programs emphasizing the personal relevance of AIDS prevention." This supports the design of multi-faceted programs in which the strategies utilized, such as community development and social marketing, are more "motivational in nature" and encourage healthy personal choices and the development of social responsibility.

REFERENCES

Addiction Research Foundation. *Prevention Strategies: Injection Drug Users and AIDS.* Toronto: Addiction Research Foundation, (1991).

Addiction Research Foundation. *Controlling AIDS and HIV: The Pharmacist's Role.* Toronto: Addiction Research Foundation, (1992).

Addiction Research Foundation. *Drugs and Drug Abuse: A Reference Text* (2nd Edition). Toronto: Addiction Research Foundation, (1987).

Bardsley, John, Turvey, John, Blaterwick, John. "Vancouver's Needle Exchange Program." *Canadian Journal of Public Health 81,* p. 39 - 45, (1990).

Buning, E.C., Hargers, C., Verser, A.D., van Santen, G.W., Countinho, R.A. *Evaluation Needle and Syringe Exchange, Amsterdam* (Presentation IV International Conference on Aids, June 12 - 16, 1988, Stockhom, Sweden). Amsterdam: Drug Department, Public Health Service, (1988).

Curtis, James L., Crummey, F. Carolyn, Baker, Stanley N., Foster, Rogelio E., Khanyile, Cyril S., Wilkins, Robert. "HIV Screening and Counselling for Intravenous Drug Abuse Patients; Staff and Patient Attitudes." *JAMA 261, No. 2,* p. 258 - 262 (1989).

Chaisson, Richard E., Moss, Andrew R., Onishisi, Robin, Osmond, Dennis, & Carlson, James R. "Human Immunodeficiency Virus Infection in Heterosexual Intravenous Drug Users in San Francisco." *American Journal of Public Health 77, No. 2,* p. 169 - 172 (1987).

Chandrasekar, Pranatharthi H., Molinari, John A., & Kruse, James A. "Risk Factors for Human Immunodeficiency Virus Infection Among Parenteral Drug Abusers in a Low-Prevalence Area." *Southern Medical Journal 83(9),* p. 996 - 1001 (1990).

Darke, Shane, Hall, Wayne, Carless, Jacqueline. "Drug Use, Injecting Practices and Sexual Behaviour of Opioid Users in Sydney, Australia." *British Journal of Addiction 85,* p. 1603 - 1608 (1990).

DeVillaer, Michael. *Substance Abuse Monitor, 1990: A Report on Substance Abuse in Hamilton-Wentworth.* Hamilton: Addiction Research Foundation (1991).

DeVillaer, Michael & Barbieri, Maria. *Substance Abuse Treatment Programs in Hamilton-Wentworth: Client Characteristics, 1990-1991.* Hamilton: Substance Abuse Monitor, Addiction Research Foundation (1991).

Guydish, Joseph R., Abramowitz, A., Woods, William, Black, Denis M., & Sorensen, James L. "Changes in Needle Sharing Behavior Among Intravenous Drug Users: San Francisco, 1986 - 88." *American Journal of Public Health 80 No. 8,* p. 995 - 997 (1990).

Harms, G., Laukamm-Josten, U., Bienzle, U., & Guggenmoos-Holzmann, I. "Risk Factors for HIV Infection in German I.V. Drug Abusers." *Klin Wochen-schrift 65,* p. 376 - 379 (1987).

Harris, Randall E., Langrod, John, Herbert, James R., Lowinson, Joyce, Zang, Edith, & Wynder, Ernst L. "Changes in AIDS Risk Behavior Among Intravenous Drug Abusers in New York City." *New York State Journal of Medicine 90,* p. 123 - 126 (1990).

Hewitt, D.S. & Vinje, G.S. "Injection Drug Use Among Addictions Treatment Clients in Alberta: Implication for the Spread of AIDS." Paper submitted to: *Canadian Journal of Public Health,* August 3, (1990).

Hopkins, William. "Needle Sharing and Street Behavior in Response to AIDS in New York City" in *Needle Sharing Among Intravenous Drug Abusers: National and International Perspectives NIDA Research Monograph 80.* Rockville, Md., U.S.A.: National Institute on Drug Abuse, U.S. Dept. of Health and Human Services (1988).

Kapur, Bhushan M., Buchyns, Carrie, & Poulos, Constantine, X. *Manual on AIDS and HIV Infection.* Toronto: Addiction Research Foundation (1989).

Kipke, Michele D. & Drucker, Ernest. "Reliability and Construct Validity of the Needle Sharing Inventory." *The International Journal of Addictions 24(6),* p. 515 - 526 (1989).

Lishner, Denise Mia & Look, Michael S. "Needle-Sharing Practices and Risk for AIDS Transmission Among Intravenous Drug Users in Seattle." *The International Journal of Addictions 25(12),* p. 1475 - 1483 (1990).

Magura, Stephen, Grossman, Joel, Lipton, Douglas S., Siddiqu, Qudsia, Shapiro, Janet, Marion, Ira, & Amann, Kenneth R. "Determinants of Needle Sharing Among Intravenous Drug Users." *American Journal of Public Health Vol. 79, No. 4,* p. 459 - 462 (1989).

McCrimmon, Michael & Tschakovsky, Kate. *The HIV Positive Client: A Guide for Addictions Treatment Professionals.* Toronto: Addiction Research Foundation (1993).

Millson, Margaret, Coates, Randall, Devenyi, Paul, Franklin, Thomas, & Rankin, James. "AIDS-related Knowledge, Attitudes and Behaviour in Injection Drug Users attending a Toronto Treatment Facility." *Canadian Journal of Public Health 81,* Jan/Feb, p. 46 - 52 (1990).

Ottomanelli, G., Heller, S., Bihari, B., Kramer, T., & Juni, S. "DMI-Measured Defenses and HIV-Related Risk Behaviors in IV Compared to Non-IV Substance Abusers." *Journal of Substance Abuse Treatment 6,* p. 251 - 256 (1989).

Rahman, M. Z., Ditton, Jason, & Forsythe, A.J.M. "Variations in Needle Sharing Practices Among Intravenous Drug Users in Possil (Glasgow)." *British Journal of Addictions 84,* p. 923 - 927 (1989).

Tandemar Research, Health Promotion Directorate. *Creative Development Research on: Health Promotion and AIDS Prevention.* Ottawa: Health and Welfare Canada (1992).

Toronto Department of Public Health. *Needle Exchange Statistics* correspondence received May, (1991).

Van Den Hoek, J.A.R., Van Haastrecht, H.J.A., & Coutinho, R.A. "Risk reduction among intravenous drug users in Amsterdam under the influence of AIDS." *American Journal of Public Health 79* (10), p. 1355-7 (1989).

Wolk, J., Wodak, A., Guinan, J., Macaskill, P., & Simpson, J. "The effect of a needle and syringe exchange on a methadone maintenance unit." *The British Journal of Addictions 85,* p. 1445 - 50 (1990).

TABLE 1

Geographic Site and Clinical Settings

Abbrev.	Geographic Site	Clinical Setting	Study Reference
H-W	Hamilton-Wentworth	Treatment Centres	this report
TO-A	Toronto	Treatment Centres	Millson et al., 1990
TO-B	Toronto	Needle Exchange	Toronto DPH, 1991
ALTA	Alberta	Treatment Centres	Hewitt & Vinge, 1990
VANC	Vancouver	Needle Exchange	Bardsley et al., 1990
NY-A	New York City	Methadone Clinic	Magura et al., 1989
NY-B	New York City	Methadone Clinic	Harris et al., 1990
NY-C	New York City	Streets	Hopkins, 1988
NY-D	New York City	Methadone Clinic	Curtis et al., 1989
BRKL	Brooklyn	Detox Centre	Ottomanelli et al., 1989
BRNX	Bronx	Methadone Clinic	Kipke & Drucker, 1989
DETR	Detroit	Hospital	Chandrasekar et al.,1990
SF-A	San Francisco	Detox Centres	Guydish et al., 1990
SF-B	San Francisco	Treatment Centres	Chaisson et al. 1987
SEAT	Seattle	Methadone Clinic	Lishner & Look, 1990
AM-A	Amsterdam	STD & Meth. Clin.	Van Den Hoek et al.,1989
AM-B	Amsterdam	Needle Exchange	Buning et al., 1988
GLAS	Glasgow, Scotland	Treatment Centres	Rahman et al., 1989
GERM	Germany	Treat./Det. Ctrs.	Harms et al. 1987
SYDN	Sydney, Australia	Treat./Meth. Clin. & Needle Exchange	Darke et al., 1990

Table 2
Characteristics of Injection Drug Users Across Geographic Sites

Site	Gender M:F	Mean Age	% who are young	% Married	% Single	% Div./Sep	% Widowed	Mean Educ. (in Years)	% Some Sec. Educ.	% Sec. Grad.	% Some Post-sec.	% Post-Sec. Grad.	% White	% Black	% Latino/ Hispanic	% Native	% Unempl.	Reported Substances Used	Mean Duration a = use; b = prob.	% Sharing Needles
	Characteristic																			
H-W	2.9:1	29.0	<30 = 58.0	13.1	42.9	27.4	0.6	---	---	---	---	---	---	---	---	---	71.7	cocaine alcohol tobacco	10.5 yr. b	47.2 in past yr.
TO-A	2.1:1	---	<30 = 44.4	32.2	37.8	28.9	1.7	---	36.7	24.4	31.1	7.8	---	---	---	---	54.4	heroin cocaine inj	---	37 in past mth.
TO-B	1.9:1	---	<31 = 63.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
ALTA	2.8:1	---	<25 = 21.7	24.3 cl	---	---	---	---	---	---	---	---	---	---	---	---	68.7	alcohol coc. cannabis	---	---
VAN	1.7:1	---	<30 = 58.2	---	---	---	---	---	---	---	---	---	61.1	1.2	3.3	34.4	---	---	---	---
NY-A	2.8:1	---	<30 = 17.0	28	72	---	---	---	---	---	---	---	64	19	14	---	57	cocaine speed inj	---	40 in past month
NY-B	3.0:1	37.5	---	---	89	---	---	---	---	25	---	25	32	21	46	---	92	heroin cocaine inj		46 ?
NY-C	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	53 ?
NY-D	1.4:1	38.0	---	37.0	57.2	3.7	2.1	---	34.6 <s	33.0	27.3	5.1	---	---	---	---	---	---	---	10.2% ?
BRKL	all M	32.3	---	---	---	---	---	11.67	---	---	---	---	9.5	52.4	28.6	---	76.2	heroin cocaine inj	---	52.4 yr., 28.6 mth
BRNX	1:1	33.9	---	60	---	---	---	---	---	35	---	---	20.0	23.7	56.3	---	75	heroin cocaine inj	---	35 ?
DETR	2.2:1	35.6	---	---	---	---	---	---	---	---	---	---	21.6	75.7	2.7	---	---	narc. coc. speed alcohol	11.9 yr. a	56.1 ?
SF-A	1.8:1	35.5	---	---	---	---	---	---	---	69.2 <g	30.8	---	59.6	21.4	15.0	---	---	heroin cocaine inj	---	50 ?
SF-B	1.2:1	---	<26 = 10.7	---	---	---	---	---	---	---	---	---	50.9	21.3	27.8 iso	---	---	heroin inj	63.8%a 10yr. +	100 lifetime
SEAT	---	---	<30 = 23.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	heroin coc. dilaudid inj	---	83.4 in past 5 yr.
AM-A	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	her. coc. amphetam. inj	---	29.6 ?
AM-B	2.4:1	29.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10 yr. a	17.1 past month
GLAS	3:1	23.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	90 p2y	opiates bupren. tranq inj	---	92 lifetime
GERM	2.1:1	med	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3.8 yr b	92.5 ?
SYD	3:1	28.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	tobac. opiat. alcoh. mth	---	29 past month

cl: includes common-law relationship
<s: some may have no secondary education
inj: only injected drugs were reported

<g: includes some with no high school diploma
iso: includes some "other"

p2y: for past 2 years
med: medians: F=26;M=28

mth: past month
?: time frame unspecified

TABLE 3

Socio-demographic Characteristics by Injection Drug Use & Needle Sharing

Socio-Dem. Character.	Injection Drug Use & Needle Sharing: *All Clients* — Non-injectors n	(%)	IDUs* n	(%)	*Injection Drug Use* — Non-sharers n	(%)	Sharers n	(%)
Gender								
Male	1087	(76.3)	108	(61.4)	63	(73.3)	36	(46.8)
Female	338	(23.7)	68	(38.6)	23	(26.7)	41	(53.2)
Total	**1425**	**(100.0)**	**176**	**(100.0)**	**86**	**(100.0)**	**77**	**(100.0)**
Age								
< 25	252	(17.7)	46	(26.1)	18	(20.9)	23	(29.9)
25 - 34	427	(30.0)	98	(55.7)	56	(65.1)	38	(49.4)
35 - 44	373	(26.2)	25	(14.2)	8	(9.3)	13	(16.9)
45 - 54	211	(14.8)	7	(4.0)	4	(4.7)	3	(3.9)
55 - 64	116	(8.1)	0	(0.0)	0	(0.0)	0	(0.0)
65 +	46	(3.2)	0	(0.0)	0	(0.0)	0	(0.0)
Total	**1425**	**(100.0)**	**176**	**(100.0)**	**86**	**(100.0)**	**77**	**(100.1)**
Mean	36.9		29.0		29.2		28.8	
St. Dev.	12.9		6.8		6.7		6.9	
Marital Status								
Single	495	(34.9)	75	(42.9)	35	(40.7)	36	(46.8)
Common-law	121	(8.5)	28	(16.0)	16	(18.6)	9	(11.7)
Married	330	(23.3)	23	(13.1)	9	(10.5)	12	(15.6)
Separated	205	(14.4)	24	(13.7)	15	(17.4)	8	(10.4)
Divorced	229	(16.1)	24	(13.7)	10	(11.6)	12	(15.6)
Widowed	39	(2.7)	1	(0.6)	1	(1.2)	0	(0.0)
Total	**1419**	**(99.9)**	**175**	**(100.0)**	**86**	**(100.0)**	**77**	**(100.1)**
Access to a Supportive Person								
No	524	(40.4)	81	(48.8)	38	(45.8)	36	(50.7)
Yes	773	(59.6)	85	(51.2)	45	(54.2)	35	(49.3)
Total	**1297**	**(100.0)**	**166**	**(100.0)**	**83**	**(100.0)**	**71**	**(100.0)**
Employment Status								
Unemployed	793	(56.6)	124	(71.7)	63	(73.3)	54	(71.1)
Employed	608	(43.4)	49	(28.3)	23	(26.7)	22	(28.9)
Total	**1401**	**(100.0)**	**173**	**(100.0)**	**86**	**(100.0)**	**76**	**(100.0)**

* The number of "IDUs" exceeds the sum of "Non-sharers" and "Sharers" because the sharing status was unknown for 13 IDUs. These 13 IDUs were excluded from the comparison of "Non-sharers" and "Sharers."

TABLE 4

Types of Substances Used in Past Year and Problem Substances by Injection Drug Use & Needle Sharing

	Injection Drug Use & Needle Sharing							
	All Clients				*Injection Drug Users*			
Substance Type	Non-injectors (n=1425)		IDUs* (n=176)		Non-sharers (n=86)		Sharers (n=77)	
	n	(%)	n	(%)	n	(%)	n	(%)
Substances Used								
Cocaine	254	(17.8)	156	(88.6)	72	(83.7)	73	(94.8)
Alcohol	1365	(95.8)	148	(84.0)	71	(82.6)	69	(89.6)
Tobacco	899	(63.1)	114	(64.8)	61	(70.9)	48	(62.3)
Cannabis	477	(33.5)	98	(55.7)	45	(52.3)	47	(61.0)
Tranquilli.	197	(13.8)	55	(31.3)	23	(26.7)	28	(36.4)
Narcotics	153	(10.7)	50	(28.4)	26	(30.2)	21	(27.3)
Hallucinog.	122	(8.6)	31	(17.6)	15	(17.4)	14	(18.2)
Stimulants	70	(4.9)	29	(16.5)	18	(20.9)	11	(14.3)
Barbiturat.	50	(3.5)	17	(9.7)	8	(9.3)	7	(9.1)
Antidepres.	70	(4.9)	15	(8.5)	7	(8.1)	8	(10.4)
Solvents	25	(1.8)	3	(1.7)	2	(2.3)	1	(1.3)
Problem Substances								
Cocaine	186	(13.1)	144	(81.8)	66	(76.7)	68	(88.3)
Alcohol	1284	(90.1)	127	(72.2)	60	(69.8)	59	(76.6)
Cannabis	325	(22.8)	68	(38.6)	33	(38.4)	30	(39.0)
Tranquilli.	102	7.2)	47	(26.7)	18	(20.9)	25	(32.5)
Narcotics	78	(5.5)	42	(23.9)	21	(24.4)	18	(23.4)
Hallucinog.	74	(5.2)	24	(13.6)	13	(15.1)	10	(13.0)
Stimulants	37	(2.6)	21	(11.9)	11	(12.8)	10	(13.0)
Tobacco	141	(9.9)	12	(6.8)	7	(8.1)	5	(6.5)
Barbiturat.	23	(1.6)	13	(7.4)	5	(5.8)	6	(7.8)
Antidepres.	21	(1.5)	9	(5.1)	4	(4.7)	5	(6.5)
Solvents	13	(0.9)	2	(1.1)	1	(1.2)	1	(1.3)

* The number of "IDUs" exceeds the sum of "Non-sharers" and "Sharers" because the sharing status was unknown for 13 IDUs. These 13 IDUs were excluded from the comparison of "Non-sharers" and "Sharers."

TABLE 5

Level of Substance Use and Abuse by Injection Drug Use & Needle Sharing

	Injection Drug Use & Needle Sharing							
	All Clients				*Injection Drug Users*			
Indicator	Non-injectors		IDUs*		Non-sharers		Sharers	
	n	(%)	n	(%)	n	(%)	n	(%)
Duration of Substance Abuse Problem (Years)								
< 2	103	(8.1)	15	(9.3)	9	(11.5)	4	(5.5)
2 - 8	418	(33.0)	53	(32.7)	26	(33.3)	25	(34.2)
9 - 15	386	(30.5)	60	(37.0)	29	(37.2)	26	(35.6)
16 +	358	(28.3)	34	(21.0)	14	(18.0)	18	(24.6)
Total	**1265**	**(99.9)**	**162**	**(100.0)**	**78**	**(100.0)**	**73**	**(99.9)**
Mean Duration	12.2		10.5		10.2		10.9	
Standard Deviation	9.8		7.0		7.3		6.9	
# Substances Used in Past Year								
Mean	2.7		4.2		4.2		4.3	
St. Dev.	1.7		2.0		2.1		1.9	
# Problem Substances Identified								
Mean	1.6		3.0		2.9		3.1	
St. Dev.	1.1		1.7		1.6		1.9	

* The number of "IDUs" exceeds the sum of "Non-sharers" and "Sharers" because the sharing status was unknown for 13 IDUs. These 13 IDUs were excluded from the comparison of "Non-sharers" and "Sharers."

TABLE 6

Use of Substance Abuse Treatment Programs by Injection Drug Use & Needle Sharing

	Injection Drug Use & Needle Sharing							
	All Clients				*Injection Drug Users*			
Indicator	Non-injectors		IDUs*		Non-sharers		Sharers	
	n	(%)	n	(%)	n	(%)	n	(%)
Type of Program Used								
Detox	546	(35.6)	77	(36.7)	45	(44.1)	31	(33.3)
Assessment/ Referral	219	(14.3)	29	(13.8)	10	(9.8)	11	(11.8)
Outpatient	159	(10.4)	27	(12.9)	10	(9.8)	15	(16.1)
Day Treatment	161	(10.5)	19	(9.0)	12	(11.8)	7	(7.5)
Short-term Residential	293	(19.1)	23	(11.0)	13	(12.7)	8	(8.6)
Long-term Residential	154	(10.1)	35	(16.7)	12	(11.8)	21	(22.6)
Total	**1532**	**(100.0)**	**21**	**(100.1)**	**102**	**(100.0)**	**93**	**(99.9)**
# of Programs Used								
Single Program Use	1276	(83.3)	139	(66.2)	77	(75.5)	53	(57.0)
Multiple Program Use	256	(16.7)	71	(33.8)	25	(24.5)	40	(43.1)
Total	**1532**	**(100.0)**	**210**	**(100.0)**	**102**	**(100.0)**	**93**	**(101.0)**
Mean	1.2		1.5		1.4		1.6	
St. Dev.	0.5		0.7		0.7		0.8	

* The number of "IDUs" exceeds the sum of "Non-sharers" and "Sharers" because the sharing status was unknown for 13 IDUs. These 13 IDUs were excluded from the comparison of "Non-sharers" and "Sharers."

TABLE 7

Magnitude of Relationships Between Injection Drug Use/ Needle Sharing and Various Clinical and Demographic Variables

Clinical/Demographic Variables	Measure of Magnitude	Injection Drug Use	Needle Sharing
Gender	odds ratio	2.0	3.1
Age (years)	eta	.20	.03
Marital Status	Cramer's V	.12	.18
Access to Supportive Person	odds ratio	1.4	1.2
Employment Status	odds ratio	1.9	1.1
Cocaine Use	odds ratio	35.9	3.6
Alcohol Use	odds ratio	4.3	1.8
Tobacco Use	odds ratio	1.1	1.5
Cannabis Use	odds ratio	2.5	1.4
Tranquillizer Use	odds ratio	2.9	1.6
Narcotic Use	odds ratio	3.3	1.2
Hallucinogen Use	odds ratio	2.3	1.1
Stimulant Use	odds ratio	3.8	1.6
Barbiturate Use	odds ratio	3.0	1.0
Antidepressant Use	odds ratio	1.8	1.3
Solvent Use	odds ratio	1.1	1.8
Cocaine Problem	odds ratio	29.8	2.3
Alcohol Problem	odds ratio	3.5	1.4
Tobacco Problem	odds ratio	1.5	1.3
Cannabis Problem	odds ratio	2.1	1.0
Tranquillizer Problem	odds ratio	4.7	1.8
Narcotic Problem	odds ratio	5.4	1.1
Hallucinogen Problem	odds ratio	3.0	1.2
Stimulant Problem	odds ratio	5.1	1.0
Barbiturate Problem	odds ratio	4.9	1.4
Antidepressant Problem	odds ratio	3.5	1.4
Solvent Problem	odds ratio	1.2	1.1
Duration of Substance Problem (years)	eta	.06	.05
# Substances Used in Past Year	eta	.26	.02
# Problem Substances Identified	eta	.34	.06
Type of Program Used	Cramer's V	.10	.20
# of Programs Used	eta	.15	.15